

We claim:

1. A composition, comprising:

biocompatible, oxidized cellulose particles having an average designated nominal particle size of from about 0.035 to about 4.35mm; and

5 a biocompatible, porous water-soluble or water-swellaable polysaccharide binder component;

wherein said composition is suitable for use in a hemostatic device.

10 2. The composition of claim 1 wherein the oxidized cellulose is selected from the group consisting of carboxylic-oxidized cellulose or aldehyde-oxidized cellulose.

15 3. The composition of claim 2 wherein said water-soluble or water-swellaable polysaccharide is selected from the group consisting of methylcellulose, hydroxyalkyl cellulose, salts of carboxymethyl cellulose, carboxymethyl cellulose and carboxyethyl cellulose.

20 4. The composition of claim 2 wherein said water-soluble or water-swellaable polysaccharide is sodium carboxymethyl cellulose.

5. The composition of claim 1 wherein the weight ratio of said water-soluble or water-swellaable polysaccharide to said oxidized cellulose particles is from about 1:99 to about 20:80.

6. The composition of claim 4 wherein the weight ratio of said sodium carboxymethyl cellulose to said oxidized cellulose particles is from about 3:97 to about 10:90.

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7. The composition of claim 6 wherein said particles comprise fibers.

8. The composition of claim 7 wherein said fibers have an average designated nominal particle size of from about 0.68 to about 4.35 mm.

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9. The composition of claim 1 comprising a sponge having said oxidized cellulose particles dispersed through said binder component.

10. The composition of claim 1 comprising an agglomerate of said oxidized cellulose particles and said binder component.

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11. A hemostatic device comprising a composition suitable for use therein, said composition comprising:

biocompatible, oxidized cellulose particles having an average designated nominal particle size of from about 0.035 to about 4.35mm; and

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a biocompatible, porous water-soluble or water-swellaable polysaccharide binder component.

12. The hemostatic device of claim 11 wherein the oxidized cellulose is selected from the group consisting of carboxylic-oxidized regenerated cellulose or aldehyde-oxidized cellulose.

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13. The hemostatic device of claim 12 wherein said water-soluble or water-swelling polysaccharide is selected from the group consisting of methylcellulose, hydroxyalkyl cellulose, salts of carboxymethyl cellulose, carboxymethyl cellulose and carboxyethyl cellulose.

14. The hemostatic device of claim 12 wherein said water-soluble or water-swelling polysaccharide is sodium carboxymethyl cellulose.

15. The hemostatic device of claim 11 wherein the weight ratio of said water-soluble or water-swelling polysaccharide to said oxidized cellulose is from about 1:99 to about 20:80.

16. The hemostatic device of claim 4 wherein the weight ratio of said sodium carboxymethyl cellulose to said oxidized cellulose is from about 3:97 to about 10:90.

17. The hemostatic device of claim 16 wherein said particles comprise fibers.

18. The hemostatic device of claim 17 wherein said fibers have an average designated nominal particle size of from about 0.68 to about 4.35 mm.

19. The hemostatic device of claim 11 comprising a sponge having said oxidized cellulose particles dispersed through said binder component.

5 20. The hemostatic device of claim 11 comprising an agglomerate of said oxidized cellulose particles and said binder component.

21. The hemostatic device of claim 11 comprising said composition in the form of a powder, a patch, a plug, a slurry and a paste.

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22. A composition suitable for use in a hemostatic device, said composition produced according to the steps of:

providing a polymer solution having a water-soluble or water-swella-
ble polysaccharide polymer dissolved in a suitable solvent therefore,

15 providing biocompatible, oxidized cellulose particles having an average designated nominal size from about 0.035 to about 4.35mm,

contacting said polymer solution with said oxidized cellulose particles under conditions effective to disperse said oxidized cellulose particles substantially homogeneously throughout said polymer solution to form a substantially
20 homogeneous dispersion,

subjecting said polymer solution having said particles dispersed throughout to conditions effective to solidify said substantially homogeneous dispersion; and

removing said solvent from the solidified dispersion,
thereby forming said composition comprising said particles and a porous, water-
25 soluble or water-swella-
ble polysaccharide polymer binder component.

23. A process for making a composition useful in a hemostatic device,
comprising:

providing a polymer solution having a water-soluble or water-swella-
ble polysaccharide polymer dissolved in a suitable solvent therefore,

5 providing biocompatible, oxidized cellulose particles having an average
designated nominal size from about 0.035 to about 4.35mm,

contacting said polymer solution with said oxidized cellulose particles under
conditions effective to disperse said oxidized cellulose particles substantially
homogeneously throughout said polymer solution to form a substantially
10 homogeneous dispersion,

subjecting said polymer solution having said particles dispersed throughout
to conditions effective to solidify said substantially homogeneous dispersion; and

removing said solvent from the solidified dispersion,
thereby forming said composition comprising said particles and a porous, water-
15 soluble or water-swella-ble polysaccharide polymer binder component.

24. The process of claim 23 wherein said oxidized cellulose comprise
carboxylic-oxidized regenerated cellulose.

20 25. The process of claim 23 wherein said water-soluble or water-swella-
ble polysaccharide polymer is selected from the group consisting of methylcellulose,
hydroxyalkyl cellulose, salts of carboxymethyl cellulose, carboxymethyl cellulose
and carboxyethyl cellulose.

25 26. The process of claim 25 wherein said polymer is sodium carboxymethyl
cellulose.

27. The process of claim 26 wherein the weight ratio of said sodium carboxymethyl cellulose to said fibers or beads is from about 1:99 to about 20:80.

5 28. The process of claim 26 wherein the weight ratio of said sodium carboxymethyl cellulose to said fibers or beads is from about 3:97 to about 10:90.